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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/708,046 | 02/04/2004 | Chih-Hao Wang | VIAP0082USA | 2045 |
| 27765 | 7590 | 08/17/2006 | EXAMINER | |
| NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116 | | | NGUYEN, JIMMY H | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2629 | |

DATE MAILED: 08/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/708,046 | Applicant(s) WANG, CHIH-HAO | |
| | Examiner Jimmy H. Nguyen | Art Unit 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is made in response to applicant's papers filed on 02/04/2004. Claims 1-10 are currently pending in the application. An action follows below:

Claim Objections

2. Claims 1, 2, 4, 6, 7 and 9 are objected to under 37 CFR 1.75(a) because although this claim meets the requirement 112/2d, i.e., the metes and bounds are determinable, however, "R" of claims 1 and 6, "M" and "N" of claims 2, 4, 7 and 9 must be defined in the claim, e.g., wherein the first coefficient R is a natural number.

It is in the best interest of the patent community that applicant, in his/her normal review and/or rewriting of the claims, to take into consideration these editorial situations and make changes as necessary.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art, hereinafter AAPA.

As to claims 1-4 and 6-9, as noting in Figs. 1 and 2 and the corresponding description, AAPA discloses all the steps of these claims except for a step (c) of claim 1 and step (b) of claim 6, i.e., a step of using a plurality of first coefficients R for respectively right-shifting R bits of the calculation results to generate a plurality of quotients. However, AAPA expressly teaches a step

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of generating a plurality of quotients (CLKcal) from dividing the calculation results (Vco) by a divisor 2^R (see step 120 of Fig. 2, paragraph 9, last 4 lines). As per claim 7, as discussed in the rejection to claim 1 above, Rader discloses all the claimed limitations except for an associated display. Further, Official Notice is taken that both a step of generating a quotient from right-shifting R bits of a number (i.e., a calculation result) (see step 220 of Fig. 3) and a step of generating a quotient from dividing a number (i.e., the calculation result) by a divisor 2^R (see step 120 of Fig. 2) have been recognized in the art as equivalents. The benefit of using a step of generating a quotient from dividing the calculation result by a divisor 2^R to reduce a processing time is well-known and expected in the art. Therefore, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to replace a step 120 of AAPA with a step of using a plurality of first coefficients R for respectively right-shifting R bits of the calculation results to generate a plurality of quotients, because this would reduce the processing time, thereby executing the method faster.

As to claims 5 and 10, AAPA also teaches steps of these claims (see Fig. 2, steps 122-134) except that AAPA discloses “using a second quotient “CLKcal” to update the optimum quotient (CLKbest, see Fig. 2, step 130) instead of “using the second difference to update the minimum difference (DIFF)”, as presently recited in these claims. However, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to recognize that the minimum difference (DIFF) of the claimed invention is easily obtained from subtracting the optimum quotient (CLKbest) by a predetermined pixel clock (CLKp). Further, the objective of the pending application is to find the optimum quotient (CLKbest) (i.e., a pixel clock of a display driving circuit) rather than the minimum difference (DIFF). Therefore, it would have

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been obvious to one of ordinary skill in the art to modify the method of AAPA to utilize the update of the minimum difference, as desired.

Conclusion

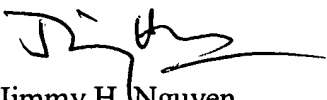
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sawada (US 6,078,317, see Figs. 1-4), Agarwal et al. (US 6,633,288 B2, see Figs. 1 and 4), and Kim (US 2003/0011588 A1, see Figs. 1-4), all disclose related method for setting a pixel clock of a display driving circuitry, in according to a display mode setting.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHN
August 6, 2006


Jimmy H. Nguyen
Primary Examiner
Technology Division: 2629